VOL. 2.4

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CONTENTS

How to Avoid I/O Error #10
Jaime Prilusky 5

The Source: An Introduction
Joel Amromin 7

Coping with Apple's Serial Card
Jeff Mazur 8

Epson MX-80 Printer Initialization
Ed Siegel 10

The Centronics 737 and Accomplices
Rich Shavelson 15

Micro-Sci's 40 Section Drives
Joe Duvall 18

Pascal Tutorial: Begin/End Problems
Randy Hyde 18

Input Anything Routine for Applesoft
Norm Haas 22

Applewriter to Apple PIE Conversion
Jerome Blumenthal 23

Prose: A Review
Colin Graham 25

Lazer Lower Case Plus
Bill Ho 27

Biostatistics
Philip B. Ender 31

Pascal Zap Modifications
Ed Siegel 31

Tellstar: An Astronomer's Aid
Mark Rose 36

The Book: A Review
Ralph White 40

Kip's Comments
Kip Reiner 42

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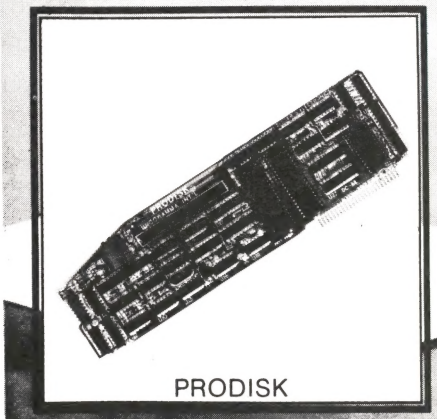

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HOW TO AVOID I/O ERROR #10
(No such File on Volume)

Jaime Prilusky

Working with Pascal files (reading and writing) is easy until you make the mistake of trying to RESET a file which doesn't exist. In that case, you get ERROR #10 and will have to reboot. This error is very frustrating and can really slow you down. This article will present two methods to help you avoid the infamous ERROR #10.

The first method uses a function called ISTHERE. This is a boolean function which returns the value of TRUE when the file exists and FALSE when the file does not exist. In the example below, the program DEMO tests to see if the file MYFILE.TEXT is on-line. If it is the file is opened, otherwise a message is displayed and corrective action can be taken.

```
PROGRAM DEMO;
VAR INFILE:INTERACTIVE;

FUNCTION ISTHERE (TITLE:STRING):
BOOLEAN;
TEMPORARY:FILE;
BEGIN
(*$I-*) (* TURN OFF IO CHECKING *)
RESET (TEMPORARY,TITLE);
(*$I+*) (* TURN IO CHECKING ON *)
ISTHERE:=IORESULT=0;
(* ISTHERE WILL BE TRUE IF *)
(* IORESUTL=0 *)
IF ISTHERE THEN CLOSE(TEMPORARY)
END;

BEGIN (* DEMO *)
IF ISTHERE('MYFILE.TEXT')
THEN RESET(INFILE,'MYFILE.TEXT')
ELSE WRITELN('FILE NOT ON-LINE');
.......
.......
END. (* DEMO *)
```

Once you have tried ISTHERE, many other possibilities will occur to you. The second example presents a function called FILEOPEN which will find which volume the file resids on and open it. This example assumes that you have six drives connected to your Apple.

```
PROGRAM DEMO2;
VAR MYFILE:INTERACTIVE;

FUNCTION FILEOPEN(FILEID,
TITLE:STRING):
BOOLEAN;
VAR TOBEOPEN,
CURRENTUNIT:STRING;
COUNT :INTEGER;
BEGIN
FOR COUNT:=1 TO 6 DO
BEGIN
CASE COUNT OF
1:CURRENTUNIT:='#4:';
2:CURRENTUNIT:='#5:';
3:CURRENTUNIT:='#9:';
4:CURRENTUNIT:='#10:';
5:CURRENTUNIT:='#11:';
6:CURRENTUNIT:='#12:'
END;
TOBEOPEN:=
CONCAT(CURRENTUNIT,TITLE);
CLOSE(FILEID); (* THERE IS NO
PUNISHMENT FOR CLOSING A FILE
ALREADY CLOSED *)
(*$I-*)
RESET(FILEID,TITLE);
(*$I+*)
IF IORESULT=0
THEN
BEGIN
FILEOPEN:=TRUE;
EXIT(FILEOPEN)
END;
END;
FILEOPEN:=FALSE
END;

BEGIN (* DEMO2 *)
IF FILEOPEN('INFILE','MYFILE.TEXT')
THEN
BEGIN
(* STATEMENTS OPERATING ON *)
(* MYFILE GO IN THIS BLOCK *)
END
ELSE
WRITELN('FILE NOT ON-LINE')
END (* DEMO2 *)
```

If you are handling many files, you will find these functions useful.

COMING NEXT ISSUE

Letters! (If you write them...)
News! (If you phone it in...)

NEW SOFTWARE FROM HARVEY'S SPACE SHIP REPAIR

COMMLOGG

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COMMLOGG is convenient. Breeze through dialing your long distance calls with just a few keystrokes and have a complete, detailed summary of your calls. Charge codes allow you to attribute calls to different persons or office divisions.

COMMLOGG is a management tool. Seeing right on the screen running time and charges helps keep long distance costs to a minimum. COMMLOGG is great for home businesses and personal use too!

COMMLOGG keeps a sequential text file of your calls. It requires a simple word processor that can read and print sequential text files. If you don't have one, see H-EDIT below.

COMMLOGG is unlocked and requires a simple licensing agreement. Minimum 32K Apple II with Applesoft ROM, a Hayes Micromodem II, and optional printer.

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THE SOURCE
An Introduction
Joel L. Amromin

In this article, I want to tell you about The Source and the Source Apple Users Group.

The Source, which bills itself as America's Information Utility, is one of two major timesharing or online data bases available at reasonable cost to the average computer user. The other system is Micronet, which is distributed through Radio Shack stores. Since I don't have a Micronet account, APPLESAUCE would gladly welcome anyone else's contributions by discussing Micronet.

The Source provides a wide range of services to its subscribers. Some of the services are online data bases. These include, for example, the United Press News Service (including UNISTOX), the New York Times Consumer Data Base, Computer Search International (a computer based job search and resume service), airline schedules, and the New York Times News Service. In addition to pre-loaded data bases, there are a number of very handy services. Among them are the Travel Club (through which you can make travel reservations), and the Family Shopper (an online discount buying service), wine selection guides. One very unique service is the IOD (Information On Demand) system. IOD is a research service which allows you to have any conceivable topic researched by a professional research agency.

There are also facilities for communication between Source users. These communication systems include an elaborate electronic mail system, a set of about fifty different bulletin boards (each with its own topic), a CHAT mode which allows users to "talk" to each other in real time through their keyboards, and the ability to create files which can be made available for anyone to read.

Finally, The Source has a number of programming languages available: FORTRAN, COBOL, RPGII, BASIC, SPSS, and Assembly Language (using Prime Macro Assembler). You can create and edit your own files with the built-in editing system. There is also a sophisticated data management system called INFOX. Extensive manuals are available separately for all these facilities.

In this article, I would also like to introduce you to the Source Apple Users Group (SAUG). SAUG was started in June 1980 by Craig Vaughan of Microsoftware Systems (formerly Peripherals Unlimited). The purpose of SAUG is to provide a forum for Apple users on the Source to exchange information and make contacts of mutual interest. To this end, we maintain a roster of members which includes account number, first name, and special interests. Anyone can access the roster by typing:

TY (10)TCA265>ROSTER

We also have libraries of both Pascal and BASIC software available for downloading. Only SAUG members can get access to these libraries. They include software ranging from simple games to an elaborate word processor (in Pascal). Membership is only $5.00 per year. For more information, type:

BASIC
(11)TCC626>READ

You will be shown a list of my public files. Among them is a file of information about SAUG, including full membership information. While you're at it, feel free to read my cookbook; it has some excellent recipes. They change periodically, so check it about once a month if you're interested.

Craig Vaughan is president of SAUG. While we miss him here in the Apple Corps, we are fortunate in that he now works for The Source, and has been instrumental in implementing many recent improvements.

In the future, we will begin to look at some of the software on the market designed for telecomputing. With the growing interest in this subject, more and more software is appearing. There are now Apple telecomputing packages in Pascal, BASIC/6502, CP/M, and, by the time you read this, FORTH.

One final note: The Telecommunication Special Interest Group of the Original Apple Corps is no longer meeting. I hope that this article and others will take its place. APPLESAUCE therefore welcome any contributions that former TSIG members may wish to make to APPLESAUCE. Especially welcome would be information about other timesharing services, reviews of terminal software, and reviews of new hardware. You don't have to write anything fancy. Just send information which might be of interest to other users to APPLESAUCE. My Source charge numbers are:

TCC626
TCA265

TRICKY PROGRAMMERS

Have you figured out how to do the impossible? Or cut run time down from minutes to seconds? See, for example, the article by Norm Haas in this issue. Share your algorithm and programs with the other readeers of APPLESAUCE! Write a note or article for APPLESAUCE!

COPING WITH APPLE'S SERIAL CARD
Part II
By Jeff Mazur

If you've seen my article on adding handshaking to the H.S. Serial card (Kilobaud/Microcomputing, June 1980, p136-138 or the update in APPLESAUCE vol 2.3, Feb 1981), you know that a simple modification can overcome a major shortcoming with this card. Well, here's another simple idea that can make life much easier with the serial card. The only parts required are a simple SPST switch and some small gauge wire.

The problem arises when the serial card is used with a printer, or any other device, which is capable of displaying more than 40 characters (which is just about everything). To accomodate longer line lengths, the serial card has two DIP switches which set the default length to 40, 72, 80, or 132 characters per line. However, when these switches are set to anything other than 40, the Apple's video display is disabled. Although many times this will not pose any problems (e.g. listing a BASIC program), there are times when having the Apple display is a must. Tracing programs and using a modem are two such examples. I have also discovered empirically that the inconvenience this causes is proportional to the square of the distance between the printer and the computer.

Since I have an 80 column printer, I spent much of my time opening the Apple (after removing everything that was piled on the computer) to change between the 80 and 40 character/line modes. Fortunately, this only involves changing one switch (#6). Thus it immediately occurred to me that I would be much happier if this switch were brought out to the back of the computer where I could get at it without removing the Apple's cover. Before getting out the soldering iron though, I decided to first see if anything could be done in software.

The Serial Card owner's manual describes several RAM loacations where infor- mation on line length and Apple video are stored. In particular, location 1784+s ($6F8+s) contains the number of characters per line, and the high order bit of location 2040+s ($7F8+s) when set turns off the video display. This gives the impression that these can be set independantly which is exactly what we would like to do; we could initialize the card for 80 char./ no video and then just POKE location 2040+s to turn the display back on. Well this idea will work in some cases but unfortunately it is not useful for LISTing programs and is also not consistent in splitting up 80 character lines into two 40 character lines. If you're curious however, here's an example that does work (it assumes serial card in slot 1 and set for 40 char/line):

```
10 PR#1 : REM SELECT SERIAL
CARD SLOT (USE PRINT CTRL-D
ETC FOR DOS)
20 PRINT : REM SEND
SOMETHING TO CARD TO INITIALIZE IT
30 POKE 1785,80 : REM SET
LINE LENGTH TO 80 CHARACTERS
40 PRINT  ****************
************************
************************
50 PR#0 : END
```

Part III will appear in the next issue of APPLESAUCE.

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APLUS is a 4K machine language utility that adds the following structured programming commands to Applesoft basic: 1) WHEN..ELSE..FIN, 2) UNTIL, 3) WHILE, 4) UNLESS, 5) CASE, 6) SELECT (variable), and 7) (OTHERWISE). Multi-line IF..THEN statements are also supported. APLUS allows the use of "named" subroutines or "procedures". The programmer can now instruct a program to "DO CURVE-FIT" without worrying about the location of the subroutine. APLUS automatically indents "&LIST"ed programs to clarify the logic flow. The APLUS "&CONVERT" command replaces the above structured programming commands with "GOTO"'s and "GOSUB"'s to provide a standard Applesoft program as output. New programs can now be written using "GOTO"-less logic.

APPLESOFT PROGRAM OPTIMIZER [AOPT] — $20.00

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AOPT is a 2.2K machine language utility that will substantially reduce the size of an Applesoft program without affecting the operation of the program. AOPT automatically: 1) Shortens variable names, 2) Removes remarks, 3) Removes unreferenced lines, 4) Appends short lines together, 5) Removes extra colons, and 6) Renumbers line numbers. AOPT will convert a verbose, well documented, development version of a program into a memory-efficient, more secure, production version of the same program. This is the ORIGINAL and the BEST optimizer on the software market today!

DOS PLUS — $25.00

32+, Disk II, DOS 3.3, Apple II/Apple II+

DOS PLUS is the software solution for living with both 13-sector (DOS 3.1, 3.2, and 3.2.1) and 16 sector (DOS 3.3) Apple diskettes, DOS PLUS adds 8 new commands to Apple DOS. Three of these are built-in and five are user definable. The built in commands include: 1) ".F" to "flip" between DOS 3.2 and 3.3 (The user need not re-boot and any program that resides in memory will not be affected by the flip. The DOS version can be changed within a program!), 2) ".S" status command informs you what DOS version is currently active, and 3) ".B" BLOAD- analysis is also provided to inform the user of the starting address and length of the last accessed binary file. DOS PLUS also includes a DOS COMMAND CHANGER program to allow easy customization of Apple DOS commands to suit individual tastes.

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48K, Disk II, Apple II/Apple II+

DISK ORGANIZER is one of the fastest and friendliest utilities available today for organizing files on an Apple II diskette. DISK ORGANIZER provides the following functions: 1) Undeleting, 2) Deleting, 3) Purging deleted files, 4) Locking, 5) Unlocking, 6) Renaming, 7) Alphabetizing, 8) Custom re-ordering of catalog, 9) Use of DOS sectors for added data storage, and 10) Dynamic display of ALL filenames on a diskette. DISK ORGANIZER uses a very powerful SMART KEY to automatically locate the next valid filename for any specified disk operation. The program is completely menu driven and attains its speed by altering a local, RAM version of the catalog prior to optionally modifying your actual disk directory. DISK ORGANIZER is fully compatible with all existing versions of Apple DOS.

QUICKLOADER — $25.00

48K+, Disk II, Apple II/Apple II+ ...(2 Disks)

If you find yourself doing the same things over and over -- QUICKLOADER will help you do it faster! QUICKLOADER is a unique disk that lets you load DOS, a language card (optionally), and an application program of your choice extremely rapidly. QUICKLOADER boots as a 13 or 16 sector diskette and is easy to set up and use. To change the setup, you merely load your Apple RAM with the new data and use the "RECONFIGURE" option of QUICKLOADER. The next time you boot your QUICKLOADER disk, it will quickly load your new setup (Language Card, DOS, Application program) into your Apple! Some of the uses for QUICKLOADER include: 1) a boot disk that loads DOS 3.2, loads Applesoft into the language card (without the "BASICS" disk), and loads & executes the Call-A.P.P.L.E Program Line Editor, 2) a boot disk that loads MUSE DOS (a convenient way to backup the DOS on your "SUPER-TEXT" disk), 3) a boot disk that loads DOS 3.3, loads Applesoft into the language card, and loads the Applesoft Programmer's Aid from Apple, or 4) a boot disk that quickly loads DOS (any version) and loads & executes the "LISA" assembler from Programma. Now that you've read this, you say "But I can already do all of that!" (except the MUSE DOS backup). QUICKLOADER doesn't do anything new -- it just does it MORE CONVENIENTLY and FASTER!! Try it, you'll like it!

DISK RECOVERY ["THE SCANNER"] — $30.00

48K+, Disk II, Apple II/Apple II+

This program is long overdue. You need no longer be concerned with the problem of physically damaged disks. Just as "Apple Pascal" provides a "BAD BLOCK SCAN", DISK RECOVERY will do a complete scan of your Apple diskettes' recording surface. Damaged areas will be "marked" as used in the disk directory so that no attempts will be made to "WRITE" to a bad sector. The VTOC will be completely redone to reflect both the bad sectors and actual disk usage. A complete report is generated advising the user of all corrections. A resulting "DISK MAP" is presented for your review. The greatest advantage of this program over the other versions is that it can be used on either NEWLY INITIALIZED DISKS or disks that ALREADY CONTAIN PROGRAMS as well as the SPEED of analysis. THE SCANNER is fully compatible with both 13 and 16 sector diskettes. This is a must for all Disk II owners!

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EPSON MX-80 PRINTER INITIALIZATION

Ed Siegel

The MX-80 printer can be preset to provide a variety of line spacing, character count and character emphasis parameters by sending special control codes, prior to sending text. The printer can remember any instructions sent to it until either it is turned off or new instructions are sent.

The user must either remember the Epson control codes or look them up each time the printer is to be activated. To simplify the task of selecting the desired print constants, a program written in Applesoft provides a menu driven selection process that sends the correct codes.

By running the initialization program, the APPLE may run any other program, DOS may changed or the language changed (PASCAL, FORTRAN, etc.) without affecting the printer output.

```
0  REM ::::::::::::::::::::::::
2  REM        EPSON  MX-80
3  REM    PRINTER INITIALIZATION
4  REM
5  REM       ED SIEGEL  1981
  REM ::::::::::::::::::::::::
9  REM  PARAMETER INITIALIZATION
10 DF$ = DEFAULT PARAMETERS
11 EMP$ = EMPHASIZED:LINE$ = 6
   LINES/INCH
12 CT$ = 80:BEEP$ =  CHR$ (7)
13  HOME : REM  PROGRAM TITLE
14  VTAB 10: HTAB 10: PRINT EPSON
    MX-80
14  VTAB 10: HTAB 10: PRINT EPSON
    MX-80
15  VTAB 12: HTAB 5: PRINT
    INITIALIZATION ROUTINE
16  FOR I = 1 TO 1000: REM
     (TIME DELAY)
17  NEXT I
18  HOME :
19  REM PARAMETER INITIALIZATION
20  I$ =  CHR$ (9):ESC$ =  CHR$ (27)
24  E$ =  CHR$ (69):G$ =  CHR$ (71)
26  COMP$ =  CHR$ (15):A$ =  CHR$
    (65)
27  HOME
28  REM   PROGRAM MENU
30  VTAB 5: PRINT EPSON MX-80:
    PRINT : PRINT
32  PRINT DF$: PRINT : PRINT
34  PRINT (1) LINE SPACING:
    ;LINE$
35  PRINT
36  PRINT (2) TYPEFACE:
    ;EMP$
37  PRINT
38  PRINT (3) # OF CHARS/LINE:
    ;CT$
39  PRINT
40  PRINT : PRINT TO CHANGE:
    PRINT
41  PRINT TYPE IN LINE NUMBER
    1,2,OR 3
42  PRINT : PRINT TO ACCEPT, PRESS
    RETURN:: PRINT (PRINTER MUST
    BE ON): VTAB 20: HTAB 31
43  GET A$
44  IF A$ = 1 THEN  GOSUB 1000:
    GOTO 27
46  IF A$ = 2 THEN  GOSUB 1100:
    GOTO 27
47  IF A$ = 3 THEN  GOSUB 1200:
    GOTO 27
48  IF A$ <  > CHR$ (13) THEN
    PRINT BEEP$: GOTO 30
100  REM
110  REM  PRINTER COMMANDS
120  REM
200  I$ =  CHR$ (9)
250  PR# 1
300  PRINT I$;80N
310  IF EMP$ = NORMAL THEN  PRINT
     ESC$;F$:GOT0400
320  IF EMP$ = EMPHASIZED THEN
     PRINT ESC$;E$
330  IF EMP$ = DOUBLE STRIKE THEN
     PRINT ESC$;G$
340  IF EMP$ = EMPHA/DOUBLE THEN
     PRINT ESC$;G$: PRINT ESC$;E$
350  IF LINE$ = 8 LINES/INCH THEN
     PRINT ESC$; CHR$ (48)
355  IF LINE$ = 7/72 INCH SPACING
     THEN  PRINT ESC$; CHR$ (49)
360  IF LINE$ = 6 LINES/INCH THEN
     PRINT ESC$; CHR$ (50)
365  IF CT$ = 80 THEN  PRINT
     CHR$ (18)
370  IF CT$ = 132 THEN  PRINT
     CHR$ (15)
400  PR# 0
450  PRINT : PRINT
460  HOME : VTAB 3: PRINT PRINTER
     IS INITIALIZED
465  VTAB 6: PRINT TO USE
     APPLEWRITER:: PRINT
466  HTAB 10: PRINT BRUN TEDITOR
470  PRINT : PRINT FOR 80 COLUMN
     PRINTING:: PRINT
```

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Q. Just how much text can I capture with DATA CAPTURE 4.0?
A. If the system with which you are communicating accepts a stop character, most use a Control S, you can capture an unlimited amount of text.

Q. How does that work? And do I have to keep an eye on how much I have already captured?
A. When the text buffer is full the stop character is output to the other system. Then DATA CAPTURE 4.0 writes what has been captured up to that point to a disk file. This is done automatically.

Q. Then what happens?
A. Control is returned to you and you can send the start character to the other system. This generally requires pressing any key, the RETURN key or a Control Q.

Q. Are upper and lower case supported if I have a Lower Case Adapter?
A. Yes. If you don't have the adapter an upper case only version is also provided on the diskette.

Q. Do I need to have my printer card or Micromodem II™ or Communications Card™ in any special slot?
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Q. Do I have to build a file on the other system to get it sent to my Apple?
A. No. If the other system can list it you can capture it.

Q. How easy is it to transmit text or data to another system?
A. You can load the text or data into DATA CAPTURE 4.0 from the disk and transmit it. Or you can transmit what you have typed into DATA CAPTURE 4.0.

Q. How can I be sure the other system receives what I send it?
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Q. What if the other system works only in Half Duplex.
A. A different sending routine is provided for use with Half Duplex systems.

Q. What if I want to transmit a program to the other system?
A. No problem. You make the program into a text file with a program that is provided with DATA CAPTURE 4.0, load it into DATA CAPTURE 4.0 and transmit it.

Q. What type files can I read and save with DATA CAPTURE 4.0?
A. Any Apple DOS sequential text file. You can create and edit EXEC files, send or receive VISICALC © data files, send or receive text files created with any editor that uses text files.

Q. Can I leave DATA CAPTURE 4.0 running on my Apple at home and use it from another system?
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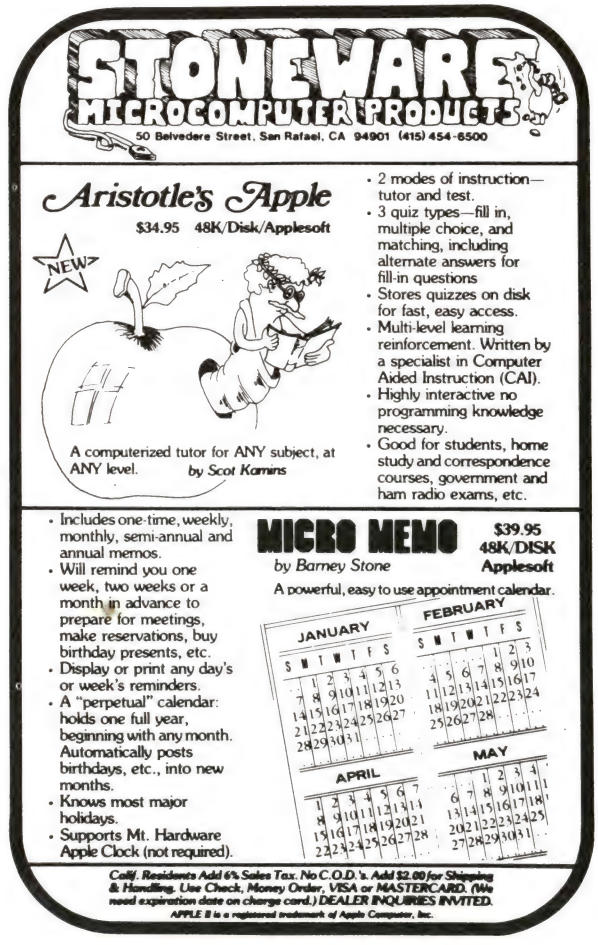
```
480  HTAB 10: PRINT PR#1
490  HTAB 10
491  PRINT PRINT ; CHR$
     (34);<CTRL I>80N; CHR$ (34)
500  PRINT : PRINT FOR PASCAL -
     REBOOT SYSTEM
510  HTAB 14: PRINT WITH PASCAL
     DISKS
600  END
900  REM
910  REM LINE SPACING ROUTINE
920  REM
1000  HOME : VTAB 10: PRINT SELECT
     LINE SPACING: PRINT : PRINT
1010  DF$ = SELECTED PARAMETERS
1012  HTAB 4: PRINT (1) 7/72 INCH
     SPACING: PRINT
1013  HTAB 4: PRINT (2) 8
     LINES/INCH: PRINT
1014  HTAB 4: PRINT (3) 6
     LINES/INCH: PRINT
1015  PRINT : PRINT BY ENTERING
     1,2, OR 3 ;
1020  GET L$
1040  IF L$ = 1 THEN LINE$ =
     7/72 INCH SPACING: RETURN
1045  IF L$ = 2 THEN LINE$ = 8
     LINES/INCH: RETURN
1050  IF L$ = 3 THEN LINE$ = 6
     LINES/INCH: RETURN
1055  PRINT BEEP$: GOTO 1000
1060  REM
1070  REM TYPEFACE SELECTION
1080  REM
1100  HOME : VTAB 7: PRINT SELECT
     TYPEFACE: PRINT : PRINT
1105  DF$ = SELECTED PARAMETERS
1110  PRINT (1) NORMAL: PRINT
1120  PRINT (2) EMPHASIZED: PRINT
     : PRINT (3) DOUBLESTRIKE:
     PRINT
1130  PRINT (4) EMPHASIZED AND
     DOUBLE STRIKE
1140  PRINT : PRINT : PRINT BY
     ENTERING 1,2,3, OR 4 ;
1150  GET TI$
1160  IF TI$ = 1 THEN EMP$ =
     NORMAL: RETURN
1170  IF TI$ = 2 THEN EMP$ =
     EMPHASIZED:CT$ = 80:
     RETURN
1180  IF TI$ = 3 THEN EMP$ =
     DOUBLE STRIKE:CT$ = 80:
     RETURN
1190  IF TI$ = 4 THEN EMP$ =
     EMPHA/DOUBLE:CT$ = 80:
     RETURN
1195  PRINT BEEP$: GOTO 1140
1197  REM
1198  REM  CHARS/LINE
1199  REM
1200  HOME : VTAB 10: PRINT SELECT
     NUMBER OF CHARACTERS/LINE
1205  DF$ = SELECTED PARAMETERS
1210  PRINT : PRINT
1220  HTAB 6: PRINT (1)    80:
     PRINT
1222  HTAB 6: PRINT (2)   132:
     PRINT
1225  PRINT
1226  PRINT BY ENTERING 1 OR 2 ;
1230  GET C$
1240  IF C$ = 1 THEN CT$ = 80:
     RETURN
1250  IF C$ = 2 THEN CT$ =
     132:EMP$ = NORMAL: RETURN
1270  PRINT BEEP$: GOTO 1226
```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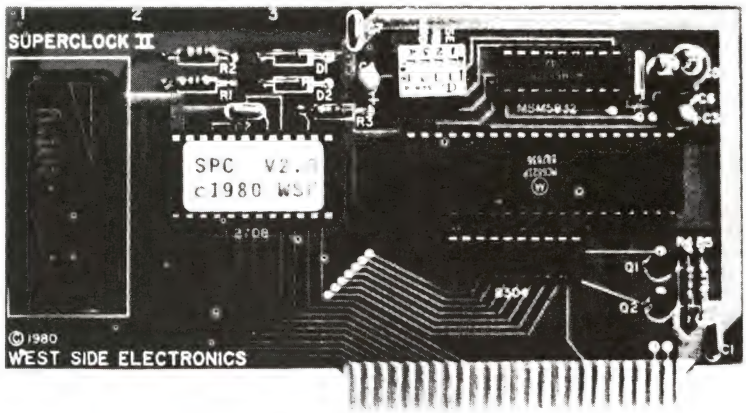

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THE CENTRONICS 737 AND ACCOMPLICES

Rich Shavelson

I am probably the most highly qualified expert in the country to conduct a consumer test of the Centronics 737 printer. That's because Murphy's law was invented just for me. I'm the one they invented the concept of consumer-proof, plug in electronics. In short, if anything can go wrong with an electronics product, it'll go wrong for me. This report, then, is probably the toughest test the 737 could ever be put through!

I pride myself in my self-awareness. I realize that I have the propensity to screw things up. That's why I didn't tackle the 737 alone. When the 737 arrived, I immediately called my HEAE-Apple-Consultant-High-Expert (Head-ACHE; ACHE for short) who arrived in short order for the unveiling. This is where the story, no test, begins.

We immediately went to work, methodically working through the 14 steps for unpacking the 737 and starting through the 7 "quick set up procedures." Step 6 states, "Place POWER switch in ON position and observe that the LED illuminates through paper exit slot." This is where we encountered our first difficulty. Without my consultant, I would never have recognized the LED simply because it did not look like any other LED I had ever seen. But, perhaps more importantly, once pluged in and turned on, we could not see the LED! This leads to my first criticism of the 737:

<1> The LED cannot easily be seen when the printer is turned on. I have forgotten to turn off the printer many times because the LED is inside the printer instead of by the on/off switch.

To be honest, the reason we could not see the LED the first time we turned on the printer was because IT DID NOT GO ON! We disconnected everything and tried again to no avail. My ACHE and I then examined the interior of the printer and discovered what we considered a broken fuse—it looked to have a crack through it. Upon this discovery, we immediately called the Centronics Field Engineering Headquarters in Irvine (CA) and were put through to a tech, "Rob." He was extremely helpful, but to no avail. The LED refused to illuminate. We called Rob back, just as he was leaving work, and reported the bad news. He recommended we send the printer to him to be checked out. We did so and had the printer back within 3 days. This leads me to my first praise of Centronics:

(1) The Centronics people have always been helpful, courteous and efficient when I have called or sent the printer in for examination.

The problem was not with the printer, as the field test showed. (And, while the fuse looks cracked, it was not!) The problem lay in the fact that my Head-ACHE and I had incorrectly wired the connector that interfaced my SSM AIO Board with the printer. Accordingly the printer refused to work. This leads me to my second compliment:

(2) The centronics circuitry is wired so that "experts" such as me and my ache cannot screw it up. This has permitted me some peace of mind, what with my proclivities.

We eventually got the connector wired correctly but that was not the end of the AIO story. Armed with the knowledge that the connector was correctly wired and that the 737 was in good operating order, jibberish was emitted when I attempted to print my pearly prose or program. Not even my Head-ACHE or his Head**2 ACHES at UCLA could figure out the problem. I had done everything but question the SSM AIO Board.

In desperation, against the better advice of my Head-ACHE and my wife, I rashly yanked the AIO Board from slot 2, wrapped it up and sent it to SSM. Approximately 1 month later, the AIO Board was returned—WITH AN IC REPLACED! This leads me to my only two criticisms of SSM (since this article is not about the SSM AIO Board):

1. SSM's turn-around is considerably longer than Centronic's. And I found their techs less interested in my problems than were Centronic's techs.

2 SSM claims to provide outstanding software and documentation for the AIO Board. This is not true. For example, in addition to the cost of the AIO Board, I found it necessary to purchase their firmware driver for a parallel printer—a cost of about $30.00.

Now, with the printer, connector and AIO Board operating, I was all set for the 737's performance—underlining, elongated print, proportional spacing, and so on. I punched in what I believed the commands to be and . . . the underlining worked, but the other fancy stuff just ignored my creations. (Notice that I have changed from first person plural—we—to first person singular. By this time, my Head-ACHE had given up on me, agreeing that I am the personification of Murphy's law.) I monkeyed with the commands and finally discovered how to type the words to capture the 737's magic. This leads me to my second criticism of the Centronics 737:

<2> Like most owner's manuals, the manual for the 737 leaves something to be desired by those such as me. One way the manual could be greatly improved would be to add EXAMPLES of the points made in the manual. For example, I would have found it terribly helpful to know that the instruction for elongated print—Mnemonic = ESC,SO; Decimal = 27,14—should be translated into the following statement in a program:

```
10 PRINT CHR$(27)+CHR$(14)
```

(This means: "Type the line you want elongated—elongated print automatically terminates at the end of a line.")

With the system working, I was happy as a lark. I could underline, proportionally space, elongate, and change type sizes. Figure 1 shows some of the 737's capabilities.

However, there was a day when the music died. My Head-ACHE had returned once things had straightened themselves out. It was in the middle of my lesson on APPLE PIE that the next disaster occurred. In the middle of printing a letter from the Apple Pie Formatter, I LOST MY DESCENTERS—that's like getting caught with your pants down! No longer could I get my y's to descend let alone my p's and q's. And the greatest loss was my UNDERLINING capability. What to do...call Sue at Centronics. Sue immediately diagnosed the problem—a faulty memory logic board. So, back to Irvine and the Field Engineering Headquarters for brain surgery. Surgery and recovery took only ONE DAY. My 737 was back and printing just as if there had been no operation. What wonders modern surgery can do today!

This is the end of my little story,

For the past three months, I have not had a problem; only joy. I suspect with the bugs out of my system, it will be smooth sailing until I add something new. Then, you'll probably be hearing from me if the editor can stand another confessional.

FIGURE 1

A DEMONSTRATION OF THE CENTRONICS 737 PRINTER!

(A) 10 CPI TYPEFACE:

THIS IS THE UNDERLINE CAPABILITY;

THIS IS PROPORTIONAL SPACING WITH 10 CPI

THIS IS THE ELONGATED PRINT CAPABILITY

(B) 16.7 CPI TYPEFACE:

THIS IS THE 16.7 CPI MONOSPACE PRINT CAPABILITY

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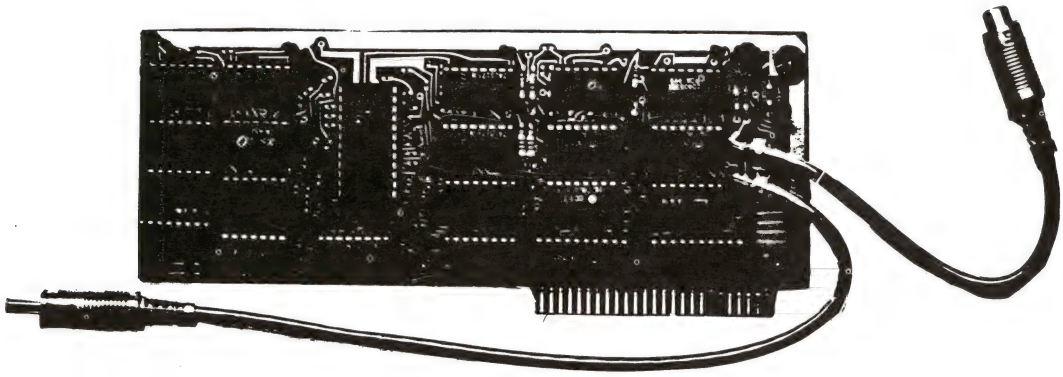

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MICRO-SCI'S NEW 40 SECTOR DRIVES

Joe Duvall

Micro-Sci's new Model A40 is a forty-sector disk drive for 5 1/2;pr;pr floppy diskettes. Fully compatible with Apple DOS (3.2 and 3.3 switchable), the Model A40 has a built-in jumper on its interface card. A double pole, single throw switch can be substituted for the jumper, permitting instant switching of the DOS. Having made this change, one no longer has to use Boot 13, Boot 16, or Basic diskettes before running programs. One simply switches to the required DOS and then boots his diskette.

I liked the unit's quiet operation and fast access time, as well as the additional storage available (168K). A door on the Model A40 covers the diskette slot completely. Another nice touch—diskettes are ejected (about two inches) from the slot. And, for those of us who care about such niceties, the colors of the Model A40 match those of the Apple.

Thirty-five sector diskettes run as in Apple disk drives. To initialize forty-sector diskettes, one must use a system master supplied with the unit. They, in turn, can be copied using Apple copy programs.

Compared to Apple or Lobo disk drives, Micro-Sci's Model A40, with all of its extra features, is a real bargain. A seventy-sector model (Apple compatible) with 256K storage is also available at a higher price. These units are only available from the factory in Orange, which is currently offering an introductory discount of $50 for each unit sold. Parts and Labor are warranted for six months.

PASCAL TUTORIAL: BEGIN/END PROBLEMS

Randy Hyde

One of the major difficulties facing the new Pascal programmer is the use of the BEGIN/END statements in Pascal. To the uninitiated it looks as though a Pascal program should stop before anthing gets accomplished. After all, there are "END" statements all over the place! This paper will attempt to describe the actual usage of the BEGIN and END statements in Pascal.

It should first be noted that Pascal works on the basis of a single statement. For instance, the FOR loop can control only one statement; The WHILE statement has jurisdiction over only one statement; In fact a Pascal program contains only one statement! But wait a second. In every Pascal listing you've seen, the Pascal program certainly contained more than one statement! Why would the author be so stupid as to think that Pascal programs only contain one statement?

The secret is the type of statement used in a Pascal program. This statement is called the compound statement. The compound statement is simply a means of tricking the Pascal compiler into thinking that several statements are really just a single statement. In essence, the compound statement allows you to group a "block" of statements together, and treat them as though they were a single statement. The compound statement begins with the reserved word "BLOCK" and is followed by an arbitrary number of valid Pascal statements separated (as distinct from terminated) from each other by semicolons. The following is a perfectly valid Pascal statement:

```
BEGIN
END
```

It should be noted that between the BEGIN and the END is a valid Pascal statement- the NULL statement. The NULL statement consists of absolutely nothing and causes absolutely no action. Sound ridiculous? Well, you will soon find out that the NULL statement is very important indeed!

Since the BEGIN/END pair form a valid (single) Pascal statement, the following is also a valid Pascal statement:

```
BEGIN
BEGIN
END
END
```

In between the outermost BEGIN and END is a single statement: namely another BEGIN/END pair. In-between the innermost BEGIN and END is that all too elusive NULL statement. The following is also a valid Pascal statement:

```
BEGIN
BEGIN
END;
BEGIN
END
END
```

This compound statement contains two statements. Note that these two statements are separated by a semicolon, and that a semicolon was not required after the second statement (before the END). To beat the idea of BEGIN, END, and the NULL statement to death, consider:

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```
BEGIN
BEGIN
; ; ;
END;
BEGIN
END;
END
```

In this example, the first of the innermost BEGIN/END pairs contains four NULL statements. The second BEGIN/END pair contains exactly one NULL statement between the BEGIN and END. Finally, there is a NULL statement between the final semicolon (after the second END) and the last END.

So far all we have done is nothing, except execute NULL statements (hmmm... that statement sounds somewhat redundant). However, it should be pointed out that the last NULL statement executed here (i.e, the NULL statement between the second and third ENDs) is very important. From a syntax point of view, the semicolon is not required. From a practical point of view it should always be included. Why? Because should you ever insert additional lines after the last statement in the BEGIN/END block you will not have to remember to put the semicolon on the previous line. And if you do forget, well that's called ERROR #6.

So now let's attempt to use the BEGIN/END statements in a real Pascal program. First off, a Pascal program always has the form:

```
PROGRAM <progname>;
.bodeclaration part.bc
.boprocedure part .bc
<compound statement>.
```

(note the period after the compound statement.) The data enclosed in braces is optional, the data enclosed in the angle brackets is variable, but required. So the smallest Pascal program possible is:

```
PROGRAM WASTEOFTIME;
BEGIN
END.
```

which does absolutely nothing.

As previously mentioned, most statements in Pascal may function upon one statement only. For instance, the FOR loop can only repeat the statement immediately following the FOR...DO the desired number of times. The following program:

```
PROGRAM BADBOY;
VAR I:INTEGER;
BEGIN
FOR I:= 1 TO 100 DO
WRITELN('RANDY IS A BAD BOY');
WRITELN('IF ONLY IT WERE THAT',
'EASY IN GRADE
SCHOOL');
END.
```

prints "ANDY IS A BAD BOY" 100 times and then prints "IF ONLY IT WERE THAT EASY IN SCHOOL" exactly once. Since the FOR...DO loop only executes the statement immediately following the DO, how would you talk the computer into repeating a bunch of lines?

Well, if you've been reading all along the answer should be obvious, use the BEGIN/END pair to group all of the statements together. Example:

```
PROGRAM CHEATTHETEACHER;
VAR I:INTEGER;
BEGIN
FOR I:=1 TO 100 DO BEGIN
WRITELN('RANDY IS A BAD BOY');
WRITE('AND PROMISES NEVER TO',
'USE THE TEACHER''S');
WRITELN('APPLE FOR',
'HOMEWORK AGAIN.');
END;
END.
```

In summary, the BEGIN/END pair can be used anywhere a single statement may be used, thus allowing multiple statements to be used by IF's, FOR loops, etc.

THANKS

I would like to thank the many authors and reviewers who helped with this issue of APPLESAUCE. The list of reviewers and other assistants includes Joel Amromin, Phil Ender, George Guffey, Bill Ho, Dan DuBois, Gerald Rafferty, and Lou Rivas. And I'd like to specially thank Lou Rivas, who, when my main diskette catalog crashed, restructured it for me And Gerald Rafferty who arranged to have the articles typeset. Many thanks!

I would also like to thank the following companies for supplying software and hardware:

The Computer Store (Santa Monica) for lending a Smarterm 80-column board,

Programma International for Apple PIE, a modem, and other assistance, and

Randy Hyde's Lazer Systems for giving us a Lower Case Plus+.

Earl Rand
Editor

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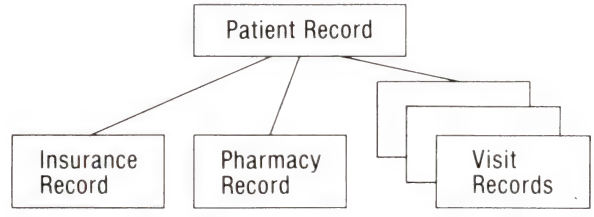

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INPUT-ANYTHING ROUTINE FOR APPLESOFT

Norman Haas

Recently, while working on a program that utilized extensive text files, I became dissatisfied with the speed at which the files were being loaded during program initialization. The following routine cuts down the time for loading these text files from four minutes to about 30 seconds, a hefty reduction over my original "get"-loop routine.

The original Input Anything routine by John Crossley was published in Contact #6. It also appeared in Peeking at Call-Apple (Vol.2), and a modified versions appeared in Call-Apple (July- August, 1980). The version presented here was published in the Ap-notes of the International Apple Corps.

```
10 IN$ =

20 REM -- IN$, THE VARIABLE THAT WILL
RECEIVE INPUT FROM THE CALL
MUST BE THE FIRST VARIABLE
DEFINED

30 HOME : TEXT
40 FOR J = 768 TO 790:
READ I: POKE J,I: NEXT J
50 DATA 162,0,32,117,253,
160,2,138,145,105,200,169,0
60 DATA 145,105,200,169,2,145,
105,76,57,213

70 REM - LINES 20-40 POKE THE INPUT
ROUTINE INTO MEMORY AT $300

80 PRINT ENTER ANY CHARACTER STRING
OF LESS THAN 254 CHARACTERS:
85 PRINT
90 CALL 768:IN$ = MID$ (IN$,1)

100 REM THE ABOVE INPUT LINE IGNORES
COMMAS,AMPERSANDS,QUOTES AND
COLONS.

105 PRINT : PRINT : PRINT
110 PRINT HERE IS WHAT YOU ENTERED:
120 PRINT : PRINT IN$
130 PRINT : PRINT WE CAN
NOW SEND YOUR DATA TO THE DISK...
140 PRINT CHR$ (4);OPEN TEMP
150 PRINT CHR$ (4);WRITE TEMP
160 PRINT IN$
170 PRINT CHR$ (4);CLOSE
180 PRINT : PRINT AND READ IT
BACK IN FROM THE DISK...
185 IN$ =
190 PRINT CHR$ (4);OPEN TEMP
200 PRINT CHR$ (4);READ TEMP
210 CALL 768:IN$ = MID$ (IN$,1)
220 PRINT CHR$ (4);CLOSE
230 PRINT : PRINT IN$
240 END
```

If we get into the monitor after running this program, we can do a "*300L<return>" and look at the input routine to see just what is going on:

```
$300: A2 00 LDX #$00
$302: 20 75 FD JSR $FD75
; $FD75 IS MONITOR NXTCHAR ROUTINE
$305: A0 02 LDY #$02
$307: 8A TXA ;# OF CHARACTERS
READ
$308: 91 69 STA ($69),Y; LENGTH
$30A: C8 INY
$30B: A9 00 LDA #$00
$30D: 91 69 STA ($69),Y
; LO-BYTE OF IN$
$30F: C8 INY
$310: A9 02 LDA #$02
$312: 91 69 STA ($69),Y
; HI-BYTE OF IN$
$314: 4C 39 D5 JMP $D539
; APSOFT GDBUFS ROUTINE
```

To understand how this routine works, we can look at pages 119 and 137 in the Applesoft Reference manual and the monitor routines in the Apple II Reference manual. First we note that the NXTCHAR routine inputs a string up to the carriage return and stores it in the input buffer which begins at $200 and then returns with the length of the input string in the X-register. Next we see that the locations $69 and $6A (VARTAB) contain the pointer to the start of the simple variable pointer table in memory. Now, the crucial point is how Applesoft stores strings in memory. The first two bytes of the address pointed to by VARTAB contain the first two characters of the first program variable name. The next byte is the length of this variable and the following two bytes (in usual 6502 LO-HI order) contain the address in memory where this variable is stored. It is this storage pointer that is changed by the Input Anything routine. The routine stores the X-register (string length, remember?) in the third byte (variable length), then it resets the memory storage address of the contents of this variable (the

third and fourth bytes) to point to $200, the address of the input buffer. Well, we are nearly there now, all that is left is GDBUFS. The GDBUFS routine puts a "0" at the end of the input buffer (BUF) and masks off the MSB on all bytes. This modification to John Crossley's original routine makes sure that everthing is set up for the return to Applesoft.

Only one more question remains. Why the IN$=MID$(IN$,1) statement after the call to our routine? The reason for this is that we do not want to leave the pointers for our IN$ string pointing to the input buffer. This statement just makes sure that the pointing address for IN$ is changed, which happens whenever the contents of a string are changed.

If you have TEXT files, with lots of commas, you find that this program will speed up loading these files. I hope that you find it as useful in your programming as I have.

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APPLEWRITER TO APPLE PIE CONVERSION

Jerome B. Blumenthal

The Applesoft program below converts APPLEWRITER binary files into APPLE PIE text files. It was programmed in response to the APPLESAUCE editor's request for such a utility.

The program takes a long time to work on lengthy text files, but it does the job. A machine language programmer should be able to reduce lines 220-290 to a simple machine language program which would run very quickly.

```
30  REM  PROGRAM BY J. B. BLUMENTHAL
40  REM  FOR  APPLESAUCE 18 MAR 1981
50  D$ =   CHR$ (4)
60  PRINT  D$;CATALOG
70  PRINT NAME OF SOURCE TEXT FILE?
80  PRINT DO NOT TYPE 'TEXT.'
90  INPUT --->;N$
100  N$ = TEXT. + N$
110  PRINT
120  PRINT NAME OF DESTINATION FILE?
130  INPUT --->;U$
140  U$ =   U$ + .A>P
150  PRINT  D$;BLOAD;N$
160  PRINT FILE LOADED.
     PRESS  RETURN TO CONTINUE
170  INPUT  Y$
180  START =  PEEK (-21902) +
     PEEK (-21901) * 256
190  LE =     PEEK (-21920) +
     PEEK (-21919) * 256
200  PRINT D$;OPEN;U$
210  PRINT D$;WRITE;U$
220  FOR S = START TO START + LE
230  P =  PEEK (S):I = I + 1
240  IF P = 141 OR P = 224 OR P = 96
     THEN P = 32: IF I > 23 OR
250  IF P > 224 THEN P = P-64:
     IF P = 174 THEN F = 1
260  IF P > 191 THEN P = P-96
270  IF P < 31  THEN P = P + 64
280  PRINT  CHR$ (P);
290  NEXT
300  PRINT !!!
310  PRINT D$;CLOSE
320  END
```

OAC MEETINGS

Our meetings are scheduled at noon in room 2224 Young Hall at UCLA . Park in lot #9 on Westwood Blvd or in lot #2 at the corner of Hilgard and Westholm.

Apple II™ Memory Management System™

A LITTLE HISTORY

Many years ago, when the Apple II first came out, it was possible to program a 48K computer. At this time you were somewhat constrained to Integer BASIC and a cassette storage medium.

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The situation soon changed again when Apple introduced the APPLESOFT ROM card. For $195 the programmer now had both Integer and APPLESOFT capabilities and 48K available.

In keeping with tradition, Apple followed the ROM card with an even more classier act: the Disk drive. A majority of Apple owners now have a 48K Apple computer with Integer BASIC, APPLESOFT, and a Disk Operating System (DOS). But the 48K in the computer is no longer fully available to the programmer since DOS occupies 10.5K of memory (actually 10752 bytes). A 48K Apple actually has 37.5K of programmable memory if DOS is booted.

APPLE II PLUS OWNERS

Owners of Apple II PLUS™ computers can follow the same procedure with an INTEGER ROM card in slot 4.

The final configuration of your Apple will be the **same** as above.

SINGLE LANGUAGE ALSO

If you don't need dual language capabilities (PLUS owners who only program in APPLESOFT, for example), then MMS will still relocate DOS on the 16K RAM card in slot 0. A full 48K will still be available to the programmer.

WHAT IS REQUIRED

- 48K Apple II or Apple II PLUS
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A FEW PROGRAMMER NOTES

DOS is somewhat altered with MMS. The command INIT is disabled, so you should INIT all your diskettes prior to starting up with MMS. In addition, MAXFILES automatically defaults to 2 but can be changed if desired.

The MMS program uses page 3 ($300.-$3FF) for interfacing and it is not available for programmer use.

Regardless of your Apple's configuration, approximately 2K of memory is devoted to the internal operating system (monitor).

Special configurations of MMS are available upon request.

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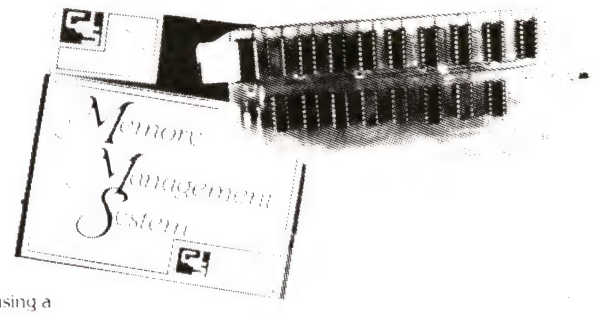

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Currently there are three 16K RAM boards available for the Apple computer.

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PROSE
A Review
Colin Graham

SUMMARY

PROSE is an excellent and easy to use text formatter written originally for the CDC 6000 in Standard Pascal by John Strait and ported by him to UCSD Pascal. It is available for nominal cost (see below) for non-commercial use. PROSE will format any file that UCSD Pascal can access. The original version of PROSE is available at many computing installations; their manual (the "big" manual) is long and fairly complete.

WHERE TO GET PROSE

PROSE can be purchased from the UCSD Pascal Users' Society, c/o LaChance, Mack & Rose, Suite A, 4805 Mercury, San Diego, CA 9211. You must either be a member of the Society ($20 per year) and pay $15 for Volume 3 of the Society's software, or pay $35 for Volume 3 of the software. The $20 gets you a newsletter and access to other disks of software. I highly recommend joining that users' group. The PROSE disk comes with PROSE source code (in several separate files totalling some 190 blocks), compiled P code, the PROSE documentation (see below), and several other programs.

DESCRIPTION

A fair summary of what PROSE can and cannot do is in the following quotation (in slightly edit ted form) from the "big" manual:

PROSE's philosophy is that the user should face only a small number of uncomplicated direc tives, of simple and consistent syntax. That the text should stand out, not the directives. Because of this desire for simplicity, PROSE may or may not be the tool for a given application. The following two lists should aid in deciding whether or not to use PROSE.

PROSE . . .

1. PROSE has a small number of commands, which provide a learn able set of basic formatting abilities.
2. PROSE can remember and restore the text processing environment.
3. PROSE can do underlining and discretionary hyphenation.
4. PROSE can produce mixed-case or upper-case output from mixed-case or upper-case only input.
5. PROSE can accumulate and produce a sorted index, referring to page numbers.
6. PROSE can print selected pages on request.
7. PROSE can fill and justify text to specified margins (this review was formatted by PROSE).
8. PROSE can format text in pages with headers, footers, and other frills.
9. PROSE is an extremely portable program (and you get the source code).
10. PROSE can process a set of files, so documents too long to fit in Apple memory can be prepared in segments and then printed as a unit.

. . . AND CONS

1. PROSE cannot control photo-type- setting machines, nor can PROSE send your printer special control characters (except for form feed, line feed, and carriage return).
2. PROSE cannot do graphics.
3. PROSE does not have multicolumn ability.
4. PROSE does not have macros or other programming-like features.
5. PROSE does not have the ability to store text and retrieve it later, with the exception of the special purpose indexing ability.
6. PROSE does not have tabs.

That ends the quotation from the "big" manual. One of the nice things about using PROSE is that you get to use the UCSD Pascal Editor to prepare your text. That editor is excellent (I only wish moving blocks of text were easier). I have not used WordStar or PIE.

The documentation on the PROSE disk is some 14 printed pages long, but it is only adequate for learning to use PROSE at a low level. In particular, it will not tell you how to use the buffers for the various formatting parameters (they function both as stacks and random-access files). The "big" manual is not very clear on that subject either, but it at least discusses it. If you can get the "big" manual from your local university computing center, I recommend doing so.

If you want to preview your text, you can have PROSE send it to CONSOLE:. Providing you are not planning on a right hand margin position of more than 79, you will see your text as it will appear in printed form with no wrap-around. (Use ctrl-S to stop the listing at any time. Because of the way characters are sent to the screen, underlining will not show up there.) I have not tried to use the index compliation feature of PROSE in any significant way. On at least one CDC 6000, the operating system must be advised to provide

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enough core memory to hold the index. It may be the case that indexing of long documents is not possible in the Apple's limited memory. You can get a tab effect manually if you are careful about entering explicit blanks and the "start a new line" command in the appropriate places.

PROSE is slow. My IDS 440 took 5.5 minutes to print a draft of this review (about 3.25 half-pages). When printing multiple copies, you can speed things up by having PROSE send its output to a disk file, and then using FILER to send each copy to the printer.

If PROSE doesn't do everything you want it to do, you can always play with the source code. (It compiles in about 12 minutes on a 64K Apple, and leaves about 1600 words free, so there is room to add features. That task–one I am now engaged in- does not appear to be easy, since the source code of PROSE is poorly documented. Any suggestions would be much appreciated.

LOWER CASE + PLUS

Bill Ho

Many of you will probably wonder why a popular microcomputer like apple II doesn't come with a full upper and lower case capability (then again, why doesn't Apple II come with a full 80 column screen and a build in Sushi Bar?). If you are like me, an ordinary semi-intellegent fun loving computer bum, then a lower case adaptor is a must. The trivial uses for such an adaptor are word processing, Pascal programming, and time sharing termainal applications, just to mention a few. Because I doubt any of the 80 column boards can perform up to my satisfaction, my next logical alternative is to consider a lower case board. After comparing the few lower case boards available, my final choice is Lazer's Lower Case + Plus (from now on refer to as LC +).

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I won't go into details about the specifications of the LC + (The specs are well described in their ad.) nor will I try to compare the LC + with any other lower case adaptors (cause there is no comparison). So what am I doing here? To begin, LC + will work with any version of Apple II, revision 0 to 7. Actually there are two versions of LC +. One is for Apple II rev. 0 to 6 and another one for rev. 7. But the two versions of LC + are identical except a set of jumpers are soldered differently. To save yourself some time, you should order the correct version of LC + for your Apple. Still, there is no problem if you bought the wrong version of LC +. You can always convert the brigdes in less than 30 seconds. This is just the first illustration of how flexible LC + is.

The LC plus works with all major word processing programs. But to get it to work with Applewriter is a bit tricky. Seven character sets are available from Lazer (word processing, graphic, Pascal, Apple font, Applewriter, true descenders, and inverse font). When you purchase a LC + , it comes with two character sets reside on a single EPROM (usually the standard word processing and graphic fonts). If you use Applewriter, then the trick is to choose the Applewriter font and another optional character set. And an extra service makes LC + even more flexible for your personal applicataions: Lazer will burn your own character set for a reasonable fee of $25.00. Also a ram base character generator will be available in April.

Recall there are two characters sets in an EPROM, one is refer to as the primary and the other is the secondary. There are many ways to select a character set and normal or inverse mode operations. The most simple way is to run a wire between pin 12 (ground pin) to pint 17 (inverse mode) or 19 (secondary character set) on the expansion port of LC +. This complex operation takes about 10 seconds. An alternative way is to run a wire from the expansion port to Apple's game I/O port. This will allow the user to make selections using software control. As a bonus for old timers without the new rev. 7 soft toggle RESET (RESET becomes CTRL-RESET), LC + will provide you with this feature. To do this, you just wire pin 18 of the expansion port to a ground pin (either pin 12 or Apple's game I/O).

The LC + comes with the software written in machine language (called Plusware) on the disk to allow user to enter lower case letters using the ESC key. The software won't conflict with your Basic programs. Your Basic keywords such as RUN, FOR...NEXT, PRINT, etc. must still be in upper case. Using the graphics character set, one can do animations using Basics in text page. With a little imagination, Star Trek programs will be more alive and perhaps even be interesting.

If you don't like to use the ESC key as a shift key, then why not use the SHIFT key? Take few seconds to run a wire from the Apple keyboard to the game I/O port. That way, you can have a typewriter keyboard and NO software required for lower case entry. With this modified SHIFT key you can enter lower case directly in Pascal programs by using the SHIFT key as a true shift. The LC + comes with patches for both versions of Pascal. If you feel that too much wires running inside your Apple will be a threat to world peace, then Pascal ver. 1.1 will allow you to enter lower case by its CTRL-R, CTRL-T, CTRL-W, and CTRL-E options without any hardware modification.

Well, is the LC + perfect? Nope! Lazer System is coming out with an improved word processing character set with about 20 characters been improved to look nicer. The new EPROM is free if you mail in your "old" EPROM to Lazer. There is a trade off if you decide to modify the SHIFT key thru the game I/O. You simply heve to practice on another "Space Invader Training Camp" because you won't be able to use your paddles.

Oh! I didn't mention the reason I bought the LC +. It's the price, only fifty nine dollars and ninety five cents.

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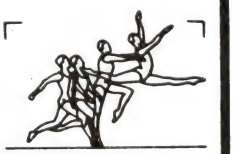

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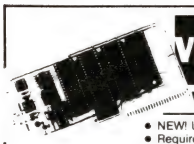

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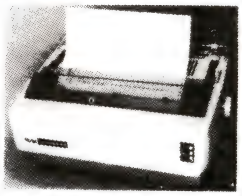

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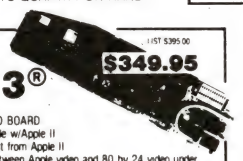

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BIOSTATISTICS
A Review
Philip B. Ender

In the course of my daily work at UCLA I constantly use major statistical packages such as SPSS, SAS, and BMD. So I enjoy trying out stat packages for the Apple to see how they compare. This article will review a new package called BIOSTATISTICS, written by Dr. Ralph Targett of the University of California, San Francisco, School of Medicine.

BIOSTATISTICS includes many of the standard statistics programs such as descriptive statistics, t-test (paired and independent), and simple linear regression. It also includes programs not usually found on stat packages for microcomputers, such as, Mann-Whitney U, Wilcoxon Paired Test, curvilinear and exponential regression.

The program begins by offering you a menu of options. After selecting the statistical technique, the program prompts for the name of the data file. At this point, you can use an already existing data file or create a new one. The program has built in data editing functions and allows you to review the data before computing the statistics. This editing feature is missing on most of the stat packages available for microcomputers.

The output from each module was comprehensive and easy to read. In fact, the whole program was very easy to use and required very little use of the manual provided.

Another very nice feature is that probability levels are given for all of the inferrential statistics. But the best feature of all is the plotting capabilities of BIOSTATISTICS. The program will plot raw data points, the regression line, and 95% confidence intervals for the linear regression module. And if you have a Watanabe plotter, the program will dump the plots to it. These plots are especially useful in determining the appropriateness of your statistical model. The curvilinear and exponential regression modules also take adavantage of the Watanabe plotter.

To run BIOSTATISTICS you need an Apple II with 48K RAM ,Applesoft in ROM or the Language Card System, and two disk drives. A printer and a Watanabe Miplot are optional. The price of the BIOSTATISTICS package is about $35.

As for faults in the package, there are two minor ones and one major one. First, not all of the programs appear on the main menu. However, with a little help from the manual they are no trouble to use. Second, the printer interface is set to slot 5, which is non-standard especially if you are set up to run Pascal. Again, this is a minor inconvience since it is not difficult to change the printer initialization routines. Finally, my biggest complaint is that the package doesn't go far enough. I wish that the same thoroughness and use of graphics had been applied to multiple regression, analysis of variance, factor analysis, and other multivariate techniques. I am very much looking forward to BIOSTATISCS II.

PASCAL ZAP MODIFICATIONS
Ed Siegel

Phil Ender's program 'PASCAL ZAP' in the January, 1981 issue of Call APPLE is a valuable tool that permits the examination and modification of any block on a Pascal formatted disk.

Using techniques learned in the O.A.C. sponsored course on Pascal, (taught by Dr. Ender), I have modified the program to provide additional features. The listing that follows modifies the 'DISPLAY' block to allow the user the option of automatically advancing to the next block on the disk. A second modification adds a new block to copy a Pascal disk prior to alteration of blocks. I recommend this procedure because block changes may crash a valuable source disk.

```
(*$G+*)
PROGRAM PASCALZAP;
CONST    SP=' ';
      HEXES='0123456789ABCDEF';
VAR
BUF0:PACKED ARRAY[0..511] OF 0..255;
BUF1:PACKED ARRAY[0..511] OF 0..255;
BUF2:PACKED ARRAY[0..511] OF 0..255;
BUF3:PACKED ARRAY[0..511] OF 0..255;
BUF4:PACKED ARRAY[0..511] OF 0..255;
BUF5:PACKED ARRAY[0..511] OF 0..255;
BUF6:PACKED ARRAY[0..511] OF 0..255;
BUF7:PACKED ARRAY[0..511] OF 0..255;
BUF8:PACKED ARRAY[0..511] OF 0..255;
BUF9:PACKED ARRAY[0..511] OF 0..255;
HEX:PACKED ARRAY[0..15]  OF CHAR;
HEXI:PACKED ARRAY[0..1]  OF CHAR;
    STR,HEXSTR:STRING;
BLOCK,BYTE,DEC:INTEGER;
     CHOICE,CH:CHAR;

PROCEDURE DECAHEX(I:INTEGER);
VAR L:INTEGER;
```

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```
PROCEDURE DOIT(I:INTEGER);
BEGIN
  IF I<16 THEN
      BEGIN
        HEXI[L]:=HEX[I];
        L:=L+1
      END
          ELSE
      BEGIN
        DOIT(I DIV 16);
        HEXI[L]:=HEX[I MOD 16]
      END
END;
BEGIN
L:=0;
HEXI:='00';
DOIT(I)
END;

PROCEDURE WRITEBLOCK;
BEGIN
   WRITELN(CHR(12));  (*CLEAR PAGE*)
   WRITELN
   ('RESPOND YES TO WRITE TO BLOCK ',
   BLOCK:3,SP:2);
   READLN(STR);     WRITELN;
   IF STR='YES' THEN
     UNITWRITE(5,BUF0,512,BLOCK,0)
END;

PROCEDURE READBLOCK;
BEGIN
   WRITELN(CHR(12));
   WRITELN;   WRITELN;
   WRITE
    ('WHICH BLOCK IS TO BE READ? ');
   READLN(BLOCK);  WRITELN;
   WRITELN('READING BLOCK ',BLOCK:3);
   UNITREAD(5,BUF0,512,BLOCK,0)
END;

PROCEDURE COPYDISK;
VAR   I,J:INTEGER;
BEGIN
  WRITELN(CHR(12));
  WRITELN;   WRITELN;
  WRITELN
   ('Put SOURCE disk in Drive 5:');
  WRITELN
   ('put  COPY  disk in Drive 4:');
  WRITELN;   WRITELN;
  WRITELN
   ('Press any key when ready...');
   READ(CH);
   I:=0;   J:=0;
    REPEAT
      (* Read 10 blocks. *)
  UNITREAD(5,BUF0,512,I,0); I:=I+1;
  UNITREAD(5,BUF1,512,I,0); I:=I+1;
  UNITREAD(5,BUF2,512,I,0); I:=I+1;
  UNITREAD(5,BUF3,512,I,0); I:=I+1;
  UNITREAD(5,BUF4,512,I,0); I:=I+1;
  UNITREAD(5,BUF5,512,I,0); I:=I+1;
  UNITREAD(5,BUF6,512,I,0); I:=I+1;
  UNITREAD(5,BUF7,512,I,0); I:=I+1;
  UNITREAD(5,BUF8,512,I,0); I:=I+1;
  UNITREAD(5,BUF9,512,I,0); I:=I+1;
      (* Write 10 blocks. *)
  UNITWRITE(4,BUF0,512,J,0); J:=J+1;
  UNITWRITE(4,BUF1,512,J,0); J:=J+1;
  UNITWRITE(4,BUF2,512,J,0); J:=J+1;
  UNITWRITE(4,BUF3,512,J,0); J:=J+1;
  UNITWRITE(4,BUF4,512,J,0); J:=J+1;
  UNITWRITE(4,BUF5,512,J,0); J:=J+1;
  UNITWRITE(4,BUF6,512,J,0); J:=J+1;
  UNITWRITE(4,BUF7,512,J,0); J:=J+1;
  UNITWRITE(4,BUF8,512,J,0); J:=J+1;
  UNITWRITE(4,BUF9,512,J,0); J:=J+1;
  WRITELN(J:6,' blocks written.    ')
     UNTIL I>270
END;

PROCEDURE DISPLAY;
VAR   ROW,COL,I,J:INTEGER;
BEGIN
   ROW:=0;  J:=0;
   WRITELN(CHR(12));
   REPEAT
     WRITE(ROW:3,':');
     FOR COL:=0 TO 7 DO
       BEGIN
         DECAHEX(BUF0[ROW+COL]);
         WRITE(HEXI:4)
       END;
     WRITE(SP);
     FOR COL:=0 TO 7 DO
       IF (BUF0[ROW+COL]>31 )
       AND (BUF0[ROW+COL]<127) THEN
          WRITE(CHR(BUF0[ROW+COL]))
                                ELSE
          WRITE('.');
     WRITELN;
     ROW:=ROW+8;   J:=J+1;
     IF J MOD 22=0  THEN
       BEGIN
         WRITELN('BLOCK ',BLOCK:4,':
            SP-CONT;  E-EXIT');
         READ(CH);WRITELN(CHR(12));
        IF (CH='E') OR (CH='e') THEN
          EXIT(DISPLAY)
         END
```

ASCII EXPRESS II

by BILL BLUE

Described in INFOWORLD as "The finest program for Apple data communications...," ASCII EXPRESS II allows your Apple to communicate with virtually any computer with dial-up access.

Written in Applesoft and Machine language, Ascii Express II includes everything you'd expect in a complete communications package. It features a variety of powerful features including full support of upper/lower case, autodial and answer capabilities (when used with the Hayes Micromodem), and file oriented upload/download facilities.

A built-in line editor gives full editing functions, and programmable keyboard MACROS reduce complicated log-in procedures to a few simple keystrokes.

Downloaded files may be printed while being received, saved to disk, or printed later when offline. The copy mode allows everything shown on the screen to be saved in the large (20K) buffer.

Ascii Express II works with the Hayes Micromodem II, Apple communications card, the CCS Asynchronous Serial card, SSM-AIO Board, Lynx Telephone Linkage System, and many other communications devices.

Uses include:

- Send/receive letters/files from networks like the SOURCE, MICRONET, or other bulletin board type systems.
- Transferring program files between Apples, an Apple and a TRS-80, PET, etc.
- Use the Apple as a terminal to a mainframe at a remote location with the added advantage of being able to process data at the Apple before or after transfer.
- Minimize on-line costs by quickly transferring files and other data.

System requirements include a 48K Apple with Applesoft in ROM or the Language Card, a disk drive, and one of the above communications devices. A lower case display board is recommended, but not required.

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ONLINE

by BILL BLUE

ONLINE is a completely secure dial-up system that allows you to call your Apple computer while you're away from home. It also provides for up to 50 optional user accounts.

ONLINE includes a versatile mail system and built-in line editor with provisions for uploading and downloading programs and files.

Its many applications include use by businesses for 24 hour answering of field representatives inquiries, taking orders or advertising for your company. It can also be used by clubs or groups for posting announcements, or transferring files.

Requires 48K Apple with Hayes Micromodem and DOS 3.3.

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Z-TERM

by BILL BLUE

The Rolls-Royce of communications software. You may find cheaper programs but you'll never find one better. Not only does it provide everything Ascii Express II does, but then some. Designed for the CP/M environment using the Z-80 Softcard, Z-TERM permits a number of features not available elsewhere.

- Receives up to 41K of data at a time. Can send files of any size.
- Auto save mode send XOFF character when buffer is full, and resumes (with operator prompting) after save.
- Terminal emulation allows you to define what kind of terminal your Apple should appear as.
- Entirely in machine language for maximum speed and power.

Z-TERM fully supports the Hayes Micromodem, Apple Communications card, SSM-AIO board, CCS Asynchronous Serial Card, Lynx Communications system and others! Fully supports the local Apple 40 column screen, external terminals, and all 80 column boards interchangeably and with NO configuration necessary!

If you have a Z-80 card, you owe it to yourself to check this one out before you buy any communications software. If you don't have the Z-80 Softcard, you may want to get one just to run this package!

*Note: CP/M and Apple DOS files are not directly compatable.

```
  UNTIL ROW>504;
  WRITELN('BLOCK ',BLOCK:4,':
    SP-MENU   N-NEXT BLOCK');
  READ(CH);  WRITELN;
  IF (CH='N') OR (CH='n') THEN
     BEGIN
      BLOCK:=BLOCK+1;
      IF BLOCK=280 THEN BLOCK:=0;
      UNITREAD(5,BUF0,512,BLOCK,0);
      DISPLAY
     END
END;

PROCEDURE HEADER;
BEGIN
  WRITELN(CHR(12));
  WRITE('BYTE TO BE CHANGED? ');
  READLN(BYTE);   WRITELN
END;

PROCEDURE ASCIICHANGE;
VAR  KAR:CHAR;
BEGIN
  HEADER;
  REPEAT
   IF (BUF0[BYTE]>31)
   AND  (BUF0[BYTE]<127)  THEN
   KAR:=CHR(BUF0[BYTE])
         ELSE
   KAR:='.';
     WRITELN(BYTE:4,': ',KAR);
     WRITE (BYTE:4,': ');
     READLN(CH);
     WRITELN('SP-EXIT');
     IF CH<>SP  THEN
       BUF0[BYTE]:=ORD(CH);
     BYTE:=BYTE+1
   UNTIL CH=SP
END;

PROCEDURE HEXADEC;
VAR I1,I2:INTEGER;
     STR:STRING;
BEGIN
   STR:=COPY(HEXSTR,2,1);
   I1:=POS(STR,HEXES)-1;
   STR:=COPY(HEXSTR,1,1);
   I2:=POS(STR,HEXES)-1;
   DEC:=I1+I2*16
END;

PROCEDURE HEXCHANGE;
VAR L:INTEGER;

BEGIN
  HEADER;
  REPEAT
    DECAHEX(BUF0[BYTE]);
    WRITELN(BYTE:4,': ',HEXI);
    WRITE (BYTE:4,': ');
    READLN(HEXSTR);
    WRITELN;
    L:=LENGTH(HEXSTR);
    IF L>2  THEN
      WRITELN('HEX VALUE TOO LONG')
           ELSE
    BEGIN
      IF L<>0 THEN BEGIN
      IF L=1 THEN
        HEXSTR:=CONCAT('0',HEXSTR);
      HEXADEC;
      BUF0[BYTE]:=DEC;
      BYTE:=BYTE+1
                 END
    END
 UNTIL L=0
END;

PROCEDURE MENU;
BEGIN
  WRITELN(CHR(12));
  WRITELN;  WRITELN;
  WRITELN(SP:5,'MENU OF OPTIONS');
  WRITELN;
  WRITELN(SP:5,'R)EAD    BLOCK');
  WRITELN(SP:5,'W)RITE   BLOCK');
  WRITELN(SP:5,'D)ISPLAY BUFFER');
  WRITELN(SP:5,'A)SCII   CHANGE');
  WRITELN(SP:5,'H)EX     CHANGE');
  WRITELN(SP:5,'C)OPY    DISK');
  WRITELN(SP:5,'Q)UIT');
  WRITELN;       WRITELN;
  WRITELN('ENTER CHOICE: ')
END;

BEGIN   (*   MAIN  PROGRAM   *)
   HEX:='0123456789ABCDEF';
   WRITELN(CHR(12));
   WRITELN;   WRITELN;
   WRITELN('  PASCAL ZAP/COPY');
   WRITELN;
   WRITELN
   ('  Adapted from the program');
   WRITELN
('PASCAL ZAP by Philip B. Ender');
   WRITELN;
   WRITE('Press a key to begin: ');
   READ(CH);
```

```
    WRITELN(CHR(12));
    REPEAT
      MENU;
      READ(CHOICE); WRITELN;
      CASE CHOICE OF
        'R','r'   :READBLOCK;
        'W','w'   :WRITEBLOCK;
        'D','d'   :DISPLAY;
        'A','a'   :ASCIICHANGE;
        'H','h'   :HEXCHANGE;
        'C','c'   :COPYDISK  END
    UNTIL (CHOICE='Q')
      OR  (CHOICE='q')
END.
```

TELLSTAR
An Astronomer's Aid
Mark Rose

TellStar by Information Unlimited Software ($79.95) is a clever astronomical program that allows the student or amateur astronomer to use his Apple as a set of star charts combined with an ephemeris. With TellStar an observer can generate maps of the sky as seen from his precise latitude and longitude and can determine not only the positions of the stars and the principal deep sky objects such as clusters, nebulae, and galaxies, but also the positions of the sun, moon and planets.

TellStar is great fun to play with. It will, for example, generate a map of the heavens as they appear at the present moment from Sydney, Australia, or tell you at what hour Mars will rise over Kiev, Russia, on July 25, 1992. Moreover, the high resolution star charts are a splendid way to show off some of the Apple's capabilities.

And yet I remain remain skeptical about the program's utility and cannot recommend it as a serious observing aid for reasons that will be explained below.

Using TellStar is simple. The user first enters an observing time and location. Any point of latitude and longitude may be selected, and the time may be any moment of the day or night from January 1, 1975, to December 31, 1999. As a convenience, the excellent manual supplied with the program lists precise latitudes and longitudes--degrees, minutes, and seconds--for some one hundred U.S. and foreign cities. The user next chooses whether to employ the display or merely to use the program's calculation section, which contains separate utilities for such matters as planetary positions or the precession of celestial coordinates. The display section, which is TellStar's main feature, provides the star charts. These are generated from one of three tables, each of which contains data on approximately 250 objects. Table 1 includes about 200 stars (down to magnitude 5.0), 24 constellations, and 13 Messier objects. Table 2 includes all 110 Messier objects and correspondingly fewer stars and constellations. Table 3 gives southern hemisphere objects. (Note that TellStar is avalable in two versions. Only Level II includes tables 2 and 3.)

After the star table is selected, TellStar begins its calculation of celestial positions, a process that generally lasts about six minutes. The length of time required between entry of data and the appearance of the charts represents a serious limitation. A second limitation is that the charts only discriminate between two orders of stellar magnitudes (above and below 1.5). Even planispheres generally distinguish about five orders of stellar magnitude and decent star atlasses discriminate more. Furthermore, the TellStar charts do not indicate variable or double stars, nor do they employ different symbols for clusters, nebulae, and galaxies. Despite these serious limitations, the charts are aesthetically pleasing and fairly accurate. In Horizontal View Mode the program provides eight laterally overlapping charts, each view being 90 degrees wide and running from the horizon to the zenith. The user can shift from chart to chart, albeit somewhat slowly since it takes the program ten or fifteen seconds to draw each chart. In this manner it is possible to obtain a full 360 degree map of the sky. There is also an Overhead View Mode that places the zenith in the center of the screen.

With the display section up and running the user has a number of interactive options at his command. He may ask the program to draw lines between the stars, giving a view of the constellations. He may use the paddles or a joystick to move cross hairs around the screen and then ask the program to identify the various objects. Or he may ask the program to locate any object in the star tables. One helpful feature of the program is that when an object is identified or located, the user is presented with a page of statistical information, including right ascension and declination, rising and setting times, magnitude, elevation, and compass headings. Note that the celestial coordinates are not approximate as are those provided in an atlas based on 1950, but are precessed for the exact date and time entered. With a simple "P" command the user is able to print out this statistical page.

TellStar can be thus be used to design an evening's observing. The amateur astronomer can consult the computer generated charts, print out the statistical information on the objects he selects for observation, and, feeling professional indeed, carry with him to his

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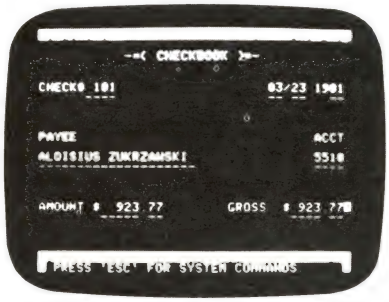

Soundex helped us find Mr. Zukrzawski when we were balancing our checkbook. We weren't sure how to spell Al's name, so searched for Al Z and found him. Instantly. The check register and several other applications are free with Datadex.

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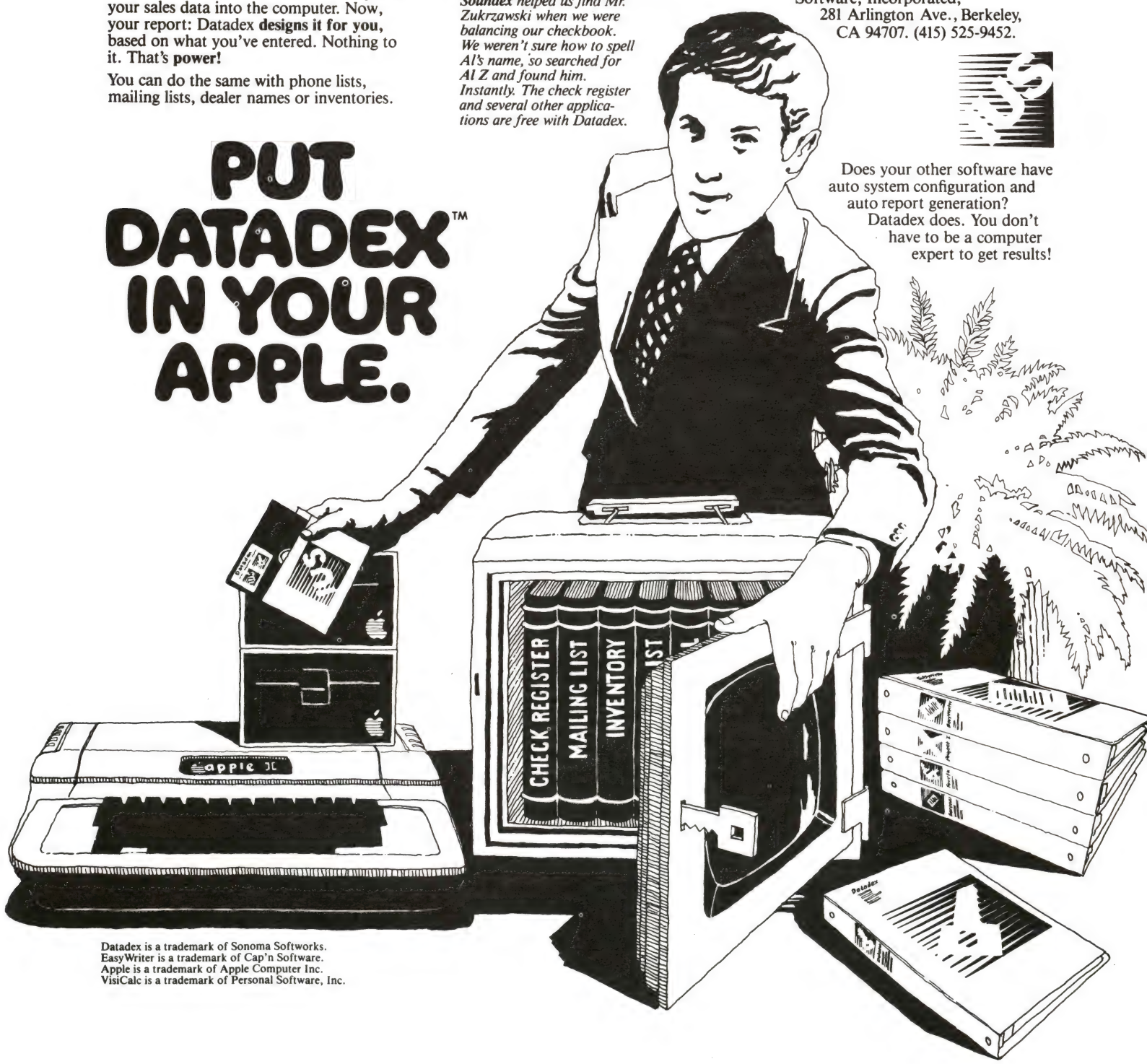

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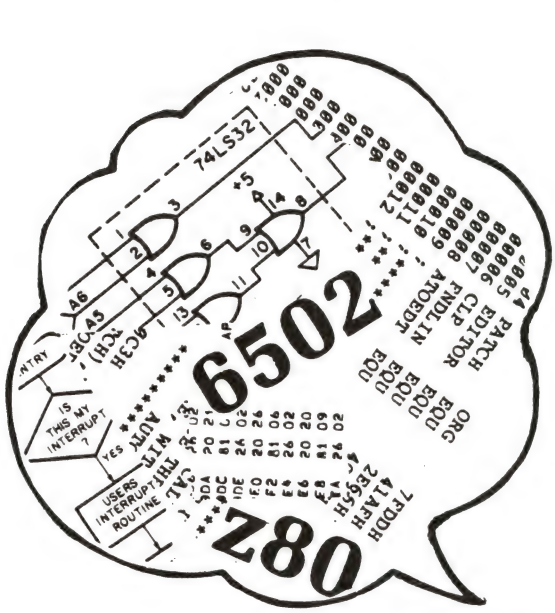

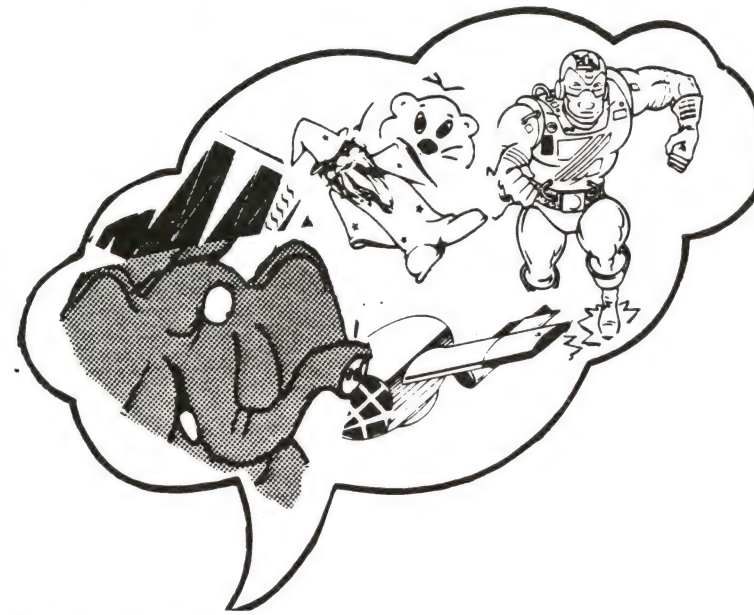

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observing site a wad of computer print out. But I doubt that many amateurs will regularly use the program in this way. The star charts, based on only about 250 objects, are simply not adequate for serious observing purposes, and the time that the program takes to generate and then to shift between the charts makes use somewhat tedious. Advanced amateurs will find TellStar's calculation section helpful for such matters as computing and printing out precession data, but such a use of the program would hardly justify the $79.95 investment.

TellStar is a curiously contradictory product. On the one hand, the star charts are too simple to be of much use to anyone except novice observers. On the other, the information in the charts is presented with a precision and specificity that only the most advanced observers require. One does not need precessed coordinates to find M31. What then is the impulse behind the program? Why was it written in the first place? The appeal of TellStar is not, I think, a matter of utility at all but of aesthetics. TellStar incorporates the magic of the miniature. Playing with this program is like playing with model trains or arranging colossal wars with toy soldiers. Just so, TellStar captures the universe in a nine-inch CRT. Time and space disappear and for the owner of this program the cosmos becomes a possession. Infinity in an Apple. Useful TellStar may not be, but it is nonetheless exhilarating. And looked at from this point of view, the program is a toy that will certainly give pleasure.

TEACHERS

Have you used your APPLE in teaching? How? What were the results? What would you advise other teachers to do? Do you have something you can share? We hope that Tricia Jordan and Bob Brostoff will have reviewed Apple's new PILOT for our next issue. Have you tried it? With what results? write up a short article for APPLESAUCE! Call: (213)450-8880.

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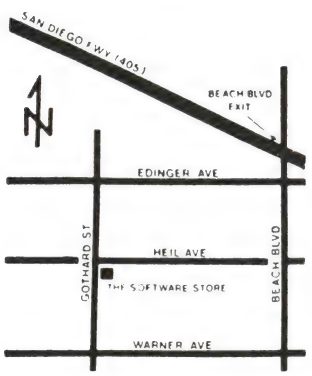

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THE BOOK
A Review
Ralph White

THE BOOK, edited by James Sadlier and Jeffrey Stanton and published by The Book Co., Marina Del Rey, 1981, is 243 pages of reviews of all the major commercial software for the Apple as of November 1980. At the West Coast Computer Faire, in April, a 65 page supplement will be released bringing it up to date. Quarterly updates are planned along with a major revision of the book each fall. At a cost of $20 for the book and $15 for the three quarterly updates (there's none in the fall), the user will be spending about $35/year. How much software does the average Apple owner buy? How does he now decide what to buy? Can we believe the front cover "The one necessary book that should be on all Apple computer owners (sic) shelves."? No. We all know users who have special requirements and must write their own software. If, however, the user has more money than time and doesn't care to get a demo of the software in the store or must purchase software by mail, then The Book will definitely help him. At least, it will provide him with a fairly complete list of the major commercial software available. It doesn't include, for example, Lawrence Hall of Science utilities (and other public domain stuff).

How accurate are the ratings? Visicalc comes out 100 and PIE seems to come out best in its class. These are accurate. The numerical ratings range from 40 up to 100, most around 80. However, we find 77, 80, 81, 82, and such accurate judgements can't be made. But the user can rest assured that 90 is better than 60.

The charts on word processors and on assemblers should save shoppers a lot of time and trouble. They are very well thought out and complete. Word processing, for example, begins with a seven page description of the various parameters of the field. This is followed by full descriptions of programs and four pages of comparative tables. Anyone purchasing a word processor for the first time would be wise to carefully read the chapter and study the charts. This is worth $20 alone, if without it the user bought the wrong program!

This is a very valuable book if the reader is going to purchase any expensive software. Salesmen often are too busy to really demo the competive programs. Also, they can't be experts in every program area. Certainly, every computer store should make this book available in the store to their customers and sale personnel. But the hobbyist probably doesn't need it on his shelf. It's only needed when he needs to purchase software. And then he may need it very badly.

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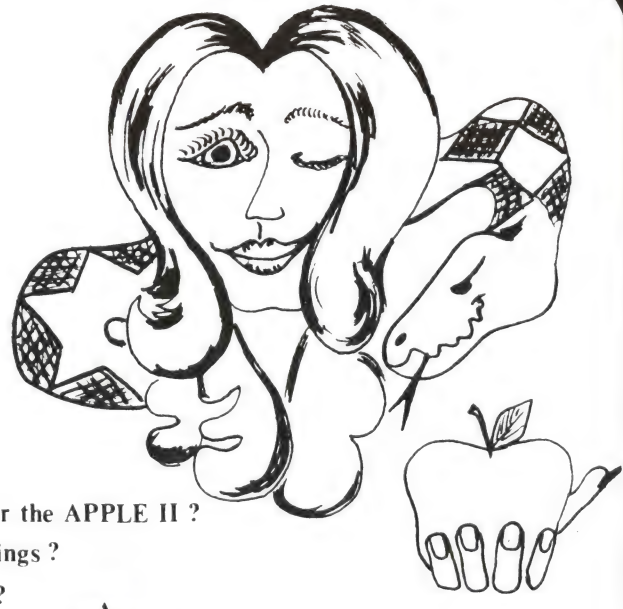

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KIP'S COMMENTS

Kip Reiner

The Original Apple Corps now meet at noon on the second Sunday of each month in 2224 Young Hall (the chemistry building) at UCLA.

The room is large and well suited to the Apple Corps meetings with plenty of seats and video monitors for every section. We hope to interest new members as we are now centrally located in the Los Angeles area.

We are now offering an intermediate assembler language class to our members. This class assume a fair knowledge of opt codes and assembling language programming. It is available to members only. Unfortunately, there is a small charge. We plan to have more classes in the future and we would be interested in knowing what subjects our members would prefer. Please let us hear from you.

Everyone is welcome to attend our monthly meeting. The club frequently has guest speakers discussing various topics on the Apple. An important part of our meeting is a different disk of software each month. This is available to members at a nominal charge for the disk and copying. Membership also includes the APPLESAUCE magazine, the "International Apple Core Apple Orchard" magazine and classes on the Apple.

Membership in the Apple Corps is $30.00 yearly and may be obtained at our meetings or by sending a check to:

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All good things must eventually come to an end. On March 23, my wife and I are moving to Houston, Texas. Dave Gordon will become OAC president. The Apple Corps has played a big role in my life these last two years. I will miss the many friends I have made through the Corps. I wish them and their Apples the best of luck.

Sincerely,
Kip Reiner
President OAC

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Authors should send materials to me in, if at all possible, machine readable form, i.e., on diskette. Common editors, including (but not limited to) Apple PIE, Applewriter, Easywriter, Prose, and Write-On, should be used. The editor you use should have features so that files can be uploaded to another machine. (Uncommon editors and word processors should be accompanied by documentation.) You should also include a printed copy of your submission. And, of course, please print your name, phone number, and return address on everything you send. Short notes and letters, of course, need not be on diskette. New items can be telephoned in.

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